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A high speed, low cost system of training and education which can provide literacy skills, job skills, and academic skills to members of delinquenogenic communities was sought.

Program involves short units of programmed material requiring a response to the text after which it feeds back the adequacy and relevancy of the learner's response. Post-reading skills, basic science and math, and basic electricity follow the basic reading program. Underlying the program is the assumption that literacy is a precondition of employability. Reading should provide a new self-concept of worth.

The evaluation will attempt to determine: the comparative effectiveness of the program in a community and in an institutional setting; the needed time to bring literacy to a 6th grade level; and the practicality of the program in teacher training and expense.

The evaluation process will select facilities and subjects for experimental and control groups, will pre-test, will impose the experimental variable (Progressive Reading Program), will post-test, will analyze data, and will include data interpretation and preliminary reporting in a final report.

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PROGRESSIVE CHOICE PROGRAMMING
for
DELINQUENOGENIC COMMUNITIES

Phase II: Validation of the Basic Literacy Program

2226 Wisconsin Avenue, N.W.
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The overall objective of this research effort is to provide a high speed low cost system of training and education which can provide literacy skills, job skills and academic skills to members of delinquenogenic communities. At the present time we have completed our literacy skill programs (The Accelerated Progressive Choice Reading Program) designed to produce a minimal sixth grade reading level. We are concerned with the following questions:

1. Will this program produce a sixth grade reading level for all subjects who complete the work?

2. How many hours will it take subjects, in fact, to complete the APCRP.

3. Where can the program be strengthened to increase its efficiency?

4. Does the program have effective and equal applicability in an insititutional as compared with a community setting?

5. Does the program have effective and equal applicability when monitored by persons without a professional teaching background or must professionally trained teachers be used?

6. Will programmed subjects show greater improvement in social attitudes and behaviour than control subjects?

This proposal, in short, is concerned with investigating the validity and utility of these literacy programs as tools for use with delinquenogenic populations. The fundamental assumption is that modern society demands literacy as a precondition for employability. The present proposal is designed to provide a systematic valuation of the efficiency of our presently available programmed materials, provide a basis for program revision and action recommendations founded on evidence.

If this validational step is successful, the way will be found for producing job-related programs which presume a minimum sixth grade literacy level for all subjects. The grand objective of our programming effort is to provide a net work of programs suited for use in a community setting, which provide a sound basis for employability. The present step is viewed as vital to insure that subjects can read the later programs related to job skill development. (See The Function of Employability in the amplified form of this proposal, Appendix A.)

THE CONCEPT OF EMPLOYABILITY

Definition of Increased Employability:

Increased employability occurs when there is an increase in:

1. Mean time employed.
2. Income for year.
3. Number of different job positions for which qualified.
4. Supervisory evaluation of job effectiveness.

Briefly, persons are assumed to be employable when they meet one or more of the following criteria:

1. Possess the knowledge and skills required for job performance.
2. Possess credentials perceived as job related.
3. Possess ability to activate job access avenues such as unions and employment agencies.

Employability is most probable when the applicant satisfies all three criteria, less probable when two criteria are satisfied; still less probable when only one criterion is satisfied and quite improbable when none of the criteria is satisfied.

The optimal plan of action to increase employability is to (1) develop the required job skills and knowledges to meet the first criterion; (2) as part of this process provide trainees with opportunities to obtain credentials, high school eqivalency certification and other evidence of competency, thus meeting the two initial criteria. Then, (3) machinery should be set up to help insure that those trainees who meet these criteria are accepted by USES, unions and employment agencies as qualified applicants (and thus satisfy our third criterion). The possession of some minimum level of job skill is viewed as a precondition for employability.

This long range plan of action for increased employability demands access to printed material rather than limitation to voice to voice communication. (See "Developing Symbolic Skills in the Mentally Retarded", Woolman and Davy, 1963.) The first stage in improving employability is to provide meaningful access to the manuals, publications, directions, and printed minutiae on which information access and later job survival so largely depends. Our intention is to insure comprehension at a sixth grade reading level as the minimum level necessary for today's job market. Once this reading level is available we can use it to help build the superstructure of job knowledges and skills necessary to increase employability. The programmed materials for delinquent subjects which now exist were designed to provide a minimum sixth grade literacy level to brace the employability substructure. We seek to establish whether or not these programs can function effectively with subjects within widely separated community centers and in different institutional settings.

THE APPROACH

The criteria for design of the Adult Literacy Training Program:

1. Contextual Flexibility:

   a. The literacy program should be so designed that it can be used in both school and non-school settings.

   b. The literacy training program should be able to be employed by skilled teachers and literate non-teacher adults.

   c. The literacy program should be designed for training classes of individuals, small groups and used on a person-to-person basis.

2. Motivational Criteria:

   a. The literacy program should relate to the basic goals and values of the learner population within the limits of social acceptability.

   b. The literacy program should be designed to be intrinsically motivating in the sense that the learner increases personal involvement as he progresses.

3. Economic Criteria:

   a. The literacy program should be adapted to the use of existing community resources and facilities for obtaining subjects, training, and instruction.

   b. The literacy program should be able to be used by non-professional unskilled persons in the role of instructor at the expense of some loss of efficiency.

   c. The literacy program should not require the use of highly specialized buildings or other facilities, but rather be designed for use in any available space where one literate person can meet in some privacy with one or more illiterates.

   d. The materials used for the "instructor" and illiterates should be relatively cheap to reproduce in quantity.

   e. The materials should be sufficiently self-contained that they can be shipped and put to use in a wide range of communities without special indoctrination or familiarization courses.

4. Functional Criteria:

   a. The literacy program should be designed so that it can be used as the first phase in developing job skills.

b. The literacy program should be designed to provide awareness of social expectancies in moral and legal areas where feasible and consistent with the requirement for maintaining motivation to learn.

c. The adaptation of the adult reading method to an institutional environment is an important consideration. However, where a conflict exists, the decision should be made in favor of training within the community context.

THE PLAN OF ACTION

The Progressive Choice Reading Method will be used to develop and improve reading skills and provide evidence of success. The programming technique contains a variety of devices designed to improve social behaviours, increase frustration tolerance, develop an ability to plan, and increase general responsiveness and level of aspiration. Thus, it is anticipated that learners will improve in their general attitudes and willingness to undertake effortful tasks. Without expanding on the specific techniques at this point (Appendix B) it should be pointed out that evidence exists that positive changes occur when these programming methods are used. (See the "Training of Guided Missile Operators", Woolman,"Programming for conceptual Understanding", Woolman) Also, reactions of parents, school supervisors, teachers and teacher ratings indicated that the programs had positive attitudinal benefits for retarded subjects aged 6 to 16. (See "Developing Symbolic Skills in the Mentally Retarded", Woolman and Davy, 1963).

Reading is a mechanism to shift attitudes: The development of reading skills can profoundly affect both the extent of available information and attitudes toward the self and others. The use of reading materials to shift attitudes is most clearly evident during war periods. However, books such as The Bible, The Prince, J'Accuse, Candide, etc. etc. have profoundly affected the conscience and the behavior of man. In more experimental settings, the PI found that the use of programmed training on Nike sites resulted in a significant improvement in morale scores where status gain was based on demonstrated mastery; work currently under way with Dr. Gentry Harris, Chief, Clinical Research, NIMH, under the supervision of the PI involves the use of attitudinal shifts as a mechanism to change the behaviors of schizophrenics; a study currently being conducted at George Washington University designed by the PI involves the use of attitudinal shift techniques to improve the driving habits of chronic offenders. Most dramatically, our present data on retarded children indicates substantial shifts in behavior as an outcome of learning reading skills. This effect was noted by parents, supervisors and teachers. In addition, ratings of social effectiveness by experimental and control teachers indicated that noticeable differences in behavior took place (all differences on the Social Effectiveness Evaluation Form significantly favored children who learned to read by the Basal Progressive Choice Reading Method).

The reading program will consist of Synchronous Progressive Choice programmed material analogous to those used in teaching retarded children to read. These programs will be modified for use with both potential and active delinquents.

The Progressive Choice Accelerated Reading Program

The Progressive Choice Accelerated Reading Program consists of programmed reading materials designed to interest adolescent non-readers and low skill readers. These programs are organized so that reading skills can be taught by (1) Professional Teachers; (2) Counselors; (3) interested and motivated untrained adults and; (4) adolescents with good existing reading skills. A reader who completes this Reading Program is expected to read at a minimum sixth grade level and many illiterates are expected to reach or exceed this level in less than one. (See Appendix D for Cycle I of Accelerated Progressive Choice Reading Program).

It is assumed that most adolescents who complete the basic reading program will still have severe vocabulary restrictions, limited understanding of arithmetic, and little facility with procedures required in other than very elementary arithmetic calculations. Therefore, on completion of the basic reading skills program, the following developmental programs will be offered:

1. The Vocabulary Expansion Program (VEPs): Programs designed to develop vocabulary will be provided. These will be designed to extend the range and depth of the reading vocabulary using various self-instructional methods based on historical, social and literary content materials.

These VEPs will have various forms, they will be characterized however by the fact that the reader proceeds in carefully controlled steps:

Step 1. Information Input:

He reads several pages of materials of controlled difficulty and word content.

Step 2. Response to Context:

He is required to respond by writing words (vocabulary expansion terms) which simultaneously demand comprehension, awareness of context and recognition or recall.

Step 3. Feed-back Loop:

Following the response, the subject folds back the margin of the page and obtains an immediate comparison between his response and the correct response. He thus obtains immediate knowledge of results and goes back to Step 1 as he continues with the sotry. (See Appendix E, "The Last of the Mohicans," "Janet's Skit," "The Big Surpirse," etc. for an illustration of Vocabulary Expansion Programs.)

2. Quantitative Program: When the learner has developed a greater reading facility and an expanded vocabulary, he can undertake the Basic Arithmetic and Basic Science Programs. This is being designed to provide understanding of arithmetic operations while

acquiring basic information about various sciences through the program. Thus, it is possible to teach facts about the atom in programmed form and use these to teach addition and subtraction in terms of differences and combinations of electrons. Concepts such as charge, coulomb, ionization, etc. can be introduced. The Basic Science Program thus imbeds the drill implicit in arithmetic with content and vocabulary in the physical, biological and social sciences. The arithmetic skills and procedures emerge only at those points where arithmetic skills function to extend understanding. (See Appendix F for "Driving Your Car" for illustrative Basic Arithmetic Program.)

3. Basic Electricity Program: On completion of the Basic Science Program, the learners may move into the Basic Electricity Program to obtain a firm basis of understanding in this vital technical area. This Basic Electricity program will be somewhat simpler than the one designed for the Bell Telephone System. Learners will be required to extend and deepen arithmetic skills and move up to simple algebraic and trigonometric relationships in the course of completing the program. It is expected that this program will be within the grasp of a substantial proportion of the learners who complete the Basic Science Program. (See Appendix G "Programming for Conceptual Understanding" for illustrative Basic Science Program material.)

THE LITERACY PROGRAM APPROACH

1. The Function of Reading Skills in the Project:

Reading skills are seen initially as a mechanism for extending the number of avenues and the scope of the information input. Reading skills are prerequisites for providing access to information and values other than those contained in the family - regional cultural capsule within which the subject is confined. The first objective is to provide reading skills as a tool for unlimited access to these new ideas and values beyond the culture-bound limits imposed by voice-to-voice communication.

2. The Reading Skill Objective:

The reading programs will have multiple objectives. The first major objective is to provide a high rate of acquisition of the symbolic skills of reading and writing. This will be done through use of The Accelerated Progressive Choice Reading Method. These school dropouts must be provided with a reading capability which will then permit them to operate at a functional level in a society more complex than the bounds of the community and the slums in which they reside.

a. Response Activation:

There will be a requirement for high rates of response as learning rate is largely a function of the activity of the activity of the learner.

b. Evidence of Achievement:

These children must perceive themselves as effective members of their own society rather than disaffected bypassed sub-group. Here we are concerned with convincing evidence of achievement earned by effort and success.

The programs will be designed to provide clear-cut goals, indisputable evidence of goal attainment, and responsibilities (as well as privileges) as a consequence of goal attainment. The effort will be to produce activity in the direction of sharply defined goals.

c. Frustration Tolerance:

The learner will be provided with programs designed to produce increasing rates of response in the face of frustration, conflict and uncertainty. This is of particular importance as the opportunity to achieve beyond the levels of their present limited environment requires an ability to maintain high response rates in the face of trying and difficult situations.

d. General Language Reservoir:

Finally we are concerned with sharply increasing the verbal reservoir so that subjects can comprehend printed materials at various levels of abstraction, with sufficient precision to understand the intent of the writer, including such abstract materials as Basic Electricity, Chemistry, etc. The subjects must understand, as fully as possible, language beyond the limits imposed by regions, color or familial pattern.

e. Summary:

The mere development of reading skills is not a sufficient weapon for students faced with entering the requirements of our technological time. Therefore, for these students, the programs must (1) provide motivational mechanisms which will sharply increase the rate of activity so that the learner can obtain symbolic skills at an accelerated rate; (2) produce an awareness of self-importance as a member of a society extending beyond the limitations of their own community; (3) provide a tolerance for frustration and delay in obtaining goals while providing techniques and skills required for goal attainment, (4) sharply expand the symbolic universe by providing a precise vocabulary sufficient to obtain realistic comprehension of complex language delivered by others, by voice or in print and (5) above all, assist in developing greater independence and insight. Reading is a prime mechanism for providing an increased flow of information. But beyond this, we are concerned with providing an armamentarium of needs, interests and values, methods of coping with problems, and a breadth of language such that these drop-out children can face our complex, technical, anxiety-ridden society with better tools for survival. Our goal is to obtain ratings of nine (9) on all subjects on each of the three Social Effectiveness Evaluation Scales. (See Appendix C)

3. The Subject Objectives:

a. General: The ultimate behaviors:

(1) We are concerned with developing methods to produce the following behavioral outcomes:

(a) Reading skills at a minimal sixth grade level.

(b) A capability to organize information and to sustain the effort to reach known goals without assistance.

(c) An ability to interact with less skilled persons as an instructor to provide assistance and support as they promote greater independence and reading skill for themselves.

(d) A large increase in the number of terms which are read and written with precision.

In short we are concerned with providing a new perception of the self as having greater self-worth based on a previous history of solid accomplishment; a history designed to provide at least some subjects with conviction (based on evidence) that their ultimate limits are bounded only by their willingness to invest the effort to break through the environmental capsule in which they are sealed.

A primary initial requirement of this project is to produce a high rate of response. It will be assumed that the subjects will appear lethargic and relatively inert at the outset. These outward manifestations are seen as masking a relatively active fantasy life in which they obtain the material possessions, responsibilities and status which are in fact denied by their life circumstance. These "dreams of glory" will be the target of the initial inputs and our first effort will be to transform these covert activities into energies for overt responses.

1. The Transformation Programs:

a. The transformation programs will possess the following characteristics:

(1) The Goal: A hero or heroine with whom subjects can identify; a poor slum-city dweller in extremely limited circumstances who has a goal which appears unachievable.

(2) The Obstacles: Lack of money, misunderstanding, time, circumstances, family, position, the law.

(3) The Effort Made to Overcome Obstacles: Specification of actions taken to overcome obstacles shown in (2) above (performing extra work, resolution by discussion and explanation, awareness of unfairness by authority, unexpected support by others, assistance from a stranger, reconsideration of problem, substitution of sub-goals, persuasion of group members, unexpected support).

(4) Goal Achievement: Detailing of actual attainment of the initial goal or some aspect of the goal.

(5) The Birth of New Goals: The awareness that once the prize has been obtained that it sets up new goals. Goal achievement thus always becomes a signal for the emergence of new goals but now the hero or heroine knows that effort can produce rewards. Response is a prerequisite for success; failure in the process of goal attainment is merely a signal demanding the development of a new and better plan.

b. At the outset, stories will be constructed using culturally familiar terms; emphasis will be given to the values, needs and interests which already exist in the delinquenogenic community. Thus, we begin with goals and situations which are identifiable and understandable in terms of the existing world in which these children live. The bridge is initially anchored on their side of the water. At later stages, as skills increase, vocabulary expands, and confidence grows, the programs gradually shift both in attitude and content to provide a more useful language reservoir and increased awareness of the behavioral boundaries demanded by the non-delinquenogenic community.

The Validational Requirement

As already mentioned, IER will have produced by January 1, 1964, the following materials specifically designed for use in delinquenogenic communities.

1. The Accelerated Progressive Choice Reading Program covering Cycles I, II and III.

2. Vocabulary Expansion Programs (VEPs): IER expects to have produced 25 VEPs providing approximately 75,000 words of vocabulary expansion materials.

3. The Quantitative Programs: IER expects to have produced programmed materials designed to move subjects through basis arithmetic from enumeration through fractions and percentages.

These programmed materials are designed to provide a solid foundation in the area of literacy skills and arithmetic and are also expected to help shift and reshape attitudes and behaviors. Programs have been constructed to insure that any subject who completes the program is capable of at least satisfying sixth grade level achievement standards. Further, it is assumed that a totally illiterate subject of normal intelligence, possessing no skills could complete the entire program in six months by spending three hours per day on the programmed materials. Students who possess a greater than zero level capability should take proportionately less time. A sixth grade reading level would provide access to much semi-skilled job instruction information and thus offer a foundation for greater employability. Further, this program (sixth grade achievement) is viewed as a necessary prerequisite to movement into job related programs (Job Level I) and/or pursuing academic programs leading to Academic Level II designed to provide the necessary skills to successfully complete a high school equivalency examination.

The first, and most important question, is whether the materials which now exist are able to do the job they were designed to accomplish. An answer to this question requires experimentation to measure the actual change in literacy level of very low level literacy subjects over a relatively short time period (six months). For purposes of validation of

these materials, subjects with minimum reading achievement scores will be of greatest interest. Thus, we would wish to focus on samples of subjects (80 IQ and above) as close to absolute illiteracy as possible. This hard core group of practically totally unemployable persons would be the main target population. However, as the study would cover a substantial range of subjects, these hard core illiterates would be extracted from the data and given a separate statistical treatment to determine the value of these programmed methods.

Expectancy: It is anticipated that subjects participating in the Accelerated PC Reading Program for three months at three hours per day (given a minimum 75% attendance rate) will achieve a minimum mean gain of 18 months in reading achievement as measured by standardized achievement tests.

The Hypotheses:

1. The Accelerated PC Reading Program will be superior to conventional literacy training courses in both community and institutional settings.

2. The Accelerated PC Reading Program in an institutional setting will produce greater gains over the same time period than the same program in a community setting.

PROCEDURES FOR LITERACY SKILL VALIDATION

It is proposed that the PC Programmed methods be subjected to a rigorous test of efficiency in a number of delinquenogenic community and institutional settings. The effort will be directed to adapting these programmed methods flexibly to available personnel and existing facilities. It is planned to perform replicating studies in delinquenogenic communities in each of five major cities using facilities which cooperate with the President's Committee for Juvenile Delinquency and Youth Crime. Also, as many delinquents are in institutional settings, it is proposed that the efficiency of these programs be tested using their facilities and personnel. Thus we may compare rate of progress in the community setting with rate of progress in an institutional setting. Also, we can evaluate the progress of subjects in both the community and institutional settings, for use as Controls. It is anticipated that we should be able to obtain a minimum of 300 subjects in the five delinquenogenic community settings and a like number in the institutions. The total minimum number of program and non-program subjects should be approximately 600. This phase of the study is expected to cover an eight month time period. A summary of the Validation Design is given as Table 1. A detailed description of this Table follows:

Action #1: Facilities required:

a. Community Facilities: To obtain evidence as to the value of these programs it is desirable that validation tests be conducted in delinquenogenic communities in various cities such as Washington, New York, Boston, Chicago and Los Angeles. In each facility, existing space and personnel will be used to the extent possible. (Estimated time required 60 days.) Plans for use of the programs within each facility will be made jointly on the basis of site visits and continuing consulation.

b. Institutional Facilities: To determine the value of these programs with delinquents in an institutional setting, at least three institutions containing delinquent subjects will also be used. The following institutions, The National Training School for Boys, Cedar Knolls and Maple Glen (Children's Center) have already been contacted and have expressed willingness to cooperate. The validation of these programed materials in at least three institutions will provide an estimate of their value in this setting for comparison.

Action #2: Selection of Subjects: All experimental subjects (Following test scoring) in both community and institutional settings will have: (1) reading achievement scores below fourth grade level; (2) ages between 14 and 22; and (3) IQ scores of 80 or above, or a statement by a competent psychologist that the subject falls at least in the dull-normal range of intelligence.

Subjects meeting the criteria will be assigned randomly (by class in institutional facilities) on the basis of pre-test scores without reference to their expressed interest to avoid bias due to initial level of motivation. Wherever possible at least 25% of the subjects (in each facility) who are given the pre-tests will not be given the program. These will operate as Controls in both the Community and institutional settings..

Action #3: The Pre-Test Battery: The pre-tests (2 days) given to each subject will contain standardized tests such as: The Stanford Achievement Test and The Otis Intelligence Test. In addition, subjects will be given The PC Diagnostic Reading Test, The Social Effectiveness Evaluation Form and Symbolic Capacity Test. This latter test has recently been designed by the PI to measure ability to comprehend language while minimizing the effects of family background, community attitudes, and scholastic achievement which tend to bias available achievement, aptitude and intelligence tests.

Action #4: Operation of the Accelerated PC Reading Program: Following Pre-test and Randomization of subjects, the Accelerated PC Reading Program will be put into effect using available institutional facilities and personnel. The original size of the classes will vary on the basis of facilities, number of subjects meeting the criteria etc. New subjects will enter the program in minimum aggragates of five subjects as available until class size reaches a maximum of twenty-five.

Community based subjects will undergo literacy instruction between five and twenty-five hours per week as determined by the subject's counselor or other community authority based on his life situation, interest and needs. Subjects in institutions will be scheduled for a minimum of two hours of programmed instruction per day.

The use of proper procedures in utilizing the programs will be stressed. At the outset there will be site-visits and conferences as required to insure understanding of the programmed method by responsible personnel. However, IER research staff personnel will not be involved in the actual teaching (other than for demonstration purposes) to avoid pump-priming and hot-housing (Hawthorne) effects. The effort at this phase is to provide a representative training situation to obtain an estimate of the value of this method in any community or institution in the absence of the special knowledge and motivation of the IER research staff.

Institutional control subjects will be instructed with the reading method currently in force. Community control subjects will be instructed with a variety of non-Progressive Choice methods of teaching reading.

Action #5: Post Testing: The progress of each subject will be evaluated periodically. As rate of progress is expected to be rapid for substantial numbers of subjects, experimental and control subjects will be post-tested at the end of successive eight week periods using short and long post-test batteries: An alternative form of the achievement test and the PC Diagnostic Reading Test will be given at the end of the first eight weeks (short battery) and again at the end of sixteen weeks. Subjects will be given an alternative form of the complete pre-test battery at the end of 24 weeks.

Action #6: Data Analysis and Summary Reports: Following each post-test a summary report will be made indicating progress in the program based on number of hours of programmed instruction. The data will indicate: (1) Mean gain scores (Post-test - minus pre-test scores) for subjects in each of the community and institutional settings; (2) As progress is correlated with gains in literacy scores the data will show gains for each fifty hours of learning time in each facility separately in community based facilities, and in institutions; (3) Mean gain in score in all community based facilities will be shown as a whole; and (4) Mean gain score in institutional facilities will be shown as a whole. Following the 24 week post-test a terminal report will be written presenting the rationale, methods, and findings during the validation period; (2) comparisons between experimental and control subjects in literacy achievement, symbolic capacity, social effectiveness ratings and intelligence scores. In addition the report will contain data, as available, on the effect of these programs in the institutional setting, employment in the community, and reactions by subjects, supervisors, and monitors to the program itself.

Additional Programs: During the validation phase of the study, members of the IER research staff will continue the development of programmed materials to the extent possible. Though this is a subordinate aspect of this phase of the work, it is believed that the program framework can be extended considerably if on-site workshops are not excessive.

Validation Design

	EXPERIMENTAL		CONTROL	
Research Action Sequence	Institutional A	Community B	Institutional C	Community D
Steps				
1. Selection of Facilities	Reformatories Centers for Delinquent Youth, etc.	JD and Youth Centers in Cities in Four Urban Communities, etc.	Reformatories Centers for Delinquent Youth	JD and Youth Centers in Four Urban Communities
2. Assignment of Subjects	As Presently Constituted in Classes	Random Assignment	As Presently Constituted in Classes	Random Assignment
3. Pre-testing	OTIS IQ Symbolic Capability, SAT, PC Diagnostic, SEEF	Reading and Achievement OTIS IQ Symbolic Capability	Reading and Achievement OTIS IQ Symbolic Capability	Reading and Achievement OTIS IQ Symbolic Capability
4. Imposition of Experimental Variables	Accelerated PC Reading Program	Accelerated PC Reading Program	School Classroom Method Now Used	Non PC Training Of Various Kinds
5. Post-Testing	Alternative Forms of Pre-test	Alternative Forms of Pre-test	Alternative Forms of Pre-test	Alternative Forms of Pre-test
6. Data Analysis	Difference Scores Between Pre and Post tests obtained and compared using various statistical methods including Analysis of variance, t-test, correlation, etc.			
7. Data Interpretation and Preliminary Report	A short version of the report given with least possible delay to provide general picture of outcome.			
8. Final Report	A full scale, detailed report will be written showing specific relationships and analyses of important sub-samples.			

Further, the force of moral and legal mechanism for control over behaviour is reduced on the basis of the lack of awareness and a resulting insensitivity to societal demands. Enrichment of the social environment has repeatedly produced positive changes in standardized measures. Some of the changes as in the studies of Cooper (1960, Gault (1914), Slawson (1926), Miner (1918), Merrill (1926), Kvaraceus (1945), Shulman (1938), Maller (1937), Healy and Bronner (1936), Shaw (1929, 1930, 1938), E. Glueck and S. Glueck (1950, 1952), Terman (1925) and Wechsler (1944) have been quite dramatic.

The illiterate mother has a greater number of illegitimate children than her literate peer. The illiterate inmate of a criminal institution has a greater probability of recidivism. (Shaw, 1929, 1930, 1938, Glueck, 1935). Likewise, the school dropout is often a frustrated adolescent at the peak of his energy levels, who faces low employability and a future ridden with social parasitism. (Terman, 1925, Wechsler, 1944, Glueck, S. & Glueck, E., 1950, 1952). Their impulsive societal activities are largely limited to non-productive and even destructive behaviour as a consequence of low literacy levels and consequent low job skills. A report of the Subcommittee to Investigate Juvenile Delinquency of the Senate Judiciary Committee (Brice, 1959) stated:

> Today in many communities youth unemployment is a serious social and economic problem. Unless remedial measures are found and applied, this problem may soon reach critical proportions all over the country with a direct bearing on the youth crime rate which has risen sharply each year for the last decade. Teenagers in the labor market have the highest rate of unemployment of any age group, generally about double the national average. Many experts in the delinquency field feel that this unemployment is a factor contributing to youth crime.

The questions may be raised as to whether these emotional castoffs are set adrift because of personal inadequacy, or whether they are unable to learn under conventional classroom methods. Conversely, if training methods were designed to provide goals perceived as more realistic in a context consistent with the needs and values of these learners, could we not anticipate a considerable educational resurgence in these resilient young people?

Illiteracy denies approximately eleven percent (11%) of Americans of their right to fully participate in our democratic society. Dr. Edward W. Brice, Acting Chief, Adult Education Branch of the U. S. Office of Education and specialist in problems of illiteracy, has stated that the loss to the nation in terms of production potential, is staggering:

> The lack of basic Elementary Education among these millions of citizens, both Native and Foreign born, constitutes a continuing

national problem of great magnitude and urgency both in time of peace as well as war.

President John F. Kennedy, in a policy making statement before the General Assembly of the United Nations (September 25, 1961) stressed the importance of literacy in the attainment of free government:

> Political sovereignty is but a mockery without the means to meet poverty, illiteracy and disease. Self determination is but a slogan if the future holds no hope.

Under present circumstances, the socially retarded often cannot be differentiated from the true mentally defective. (Committee on Labor and Public Welfare, 1963). The impact of the environment so reduces functional capability, that the genetically healthy perform as if they were genetically defective. (Bureau of Labor Standards, National Committee on Employment of Youth, New York City, 1961, U. S. Department of Health, Education and Welfare, 1962).

APPENDIX B

THE FUNCTION OF EMPLOYABILITY

It is generally agreed that there is an inverse relationship between delinquency and employability. It is assumed that if all job eligible adolescents were continuously in satisfying jobs there would be a sharp reduction in the number of amoral and illegal acts which constitute the delinquent behavioural pattern, while producing a productive contribution to the society. This proposal is directed to (1) the presentation of a systematic approach to increasing employability through the use of programmed material; and (2) obtaining objective experimental evidence as to the value of this approach when applied to adolescents in delinquenogenic communities.

Defining Increased Employability:

Increased employability occurs when one or more of the following conditions occurs:

1. There is a consistent rise in annual job income.
2. There is an increase in job stability as measured by duration of employment.
3. There is an increase in number of job positions on which qualified as measured by within plant job performance.
4. There is an increase in responsibility and/or skill as measured by supervisory ratings.

The Conditions for Increased Employability:

Excluding such factors as geography, prejudice, and economic cycles, there are three major criteria for employability as defined in this proposal. These are: (1) Demonstrated Job Proficiency; (2) Possession of Required Credentials; and (3) Satisfaction of Job Access Avenues. These three conditions are briefly amplified below:

1. Demonstrated Job Proficiency: The individual hired to perform a job shows that he can actually perform the job effectively and accept direction and guidance as required.
2. Possession of Required Credentials: Possession of a bona fide diploma, certificate of course completion, etc. from a school, union, or other accrediated educational or training agency...which acts as necessary evidence for acceptance of the applicant as a job candidate.
3. Satisfaction of Job Access Avenues: Acceptance by an organization (such as a union, USES, employment agency, or an employment office) of evidence of employability in terms of

job history, credentials and references which serve to activate the job-getting agency into a sustained effort to place the individual into a job or position suited to his background and ability.

It is evident that if criterion #1 (Demonstrated Job Proficiency) is satisfied, the job seeker has no problem. Unfortunately, the job seeker rarely has an opportunity to demonstrate what he can do prior to employment. His work history is analyzed, his personality is appraised, he may be tested, and above all he is required to give evidence of his education and training (Criterion #2). Thus, in terms of present (and foreseeable) business practice, ability to perform on the job is not determined until after the employment decision is made. Thus, the latter two criteria usually define the opportunity for an on-the-job demonstration. If an applicant successfully crosses these latter two barriers, his retention, cross-training, and upward mobility are largely determined by Criterion #1. The job applicant who satisfies all three criteria has a high probability of employment. Satisfaction of only two criteria reduces the probability somewhat and satisfaction of only one still further reduces the probability. However, the typical delinquenogenic adolescent satisfies none of the criteria and faces the bleak prospect of being at best a marginal worker in perpetuity.

If the three criteria for increased employability are analyzed, it is evident that the Criterion #1 is fundamental. The job-seeker lacking a high school diploma (Criterion #2) or other credentials is assumed to lack the necessary reading and number skills to independently read technical manuals and other job related instruction or perhaps to even successfully fill a job application form. Usually he must be in a herd of men under the surveillance of a straw boss or he is jobless. Thus, the absence of some evidence of competency in some type of academic or vocational training can bar the applicant from an employment roster irrespective of his performance capability. Conversely, the possession of accreditation in the form of a high school diploma, certificate of vocational school completion, or passing of a high school equivalency test will open avenues to jobs in the absence of demonstrated work experience and proven competency.

The third criterion demands that the applicant satisfy certain standards of the unions, employment agencies, USES, personnel office, etc. These agencies represent screening devices or filters through which the prospective employee must pass to obtain a job. All other things being equal, the probability is higher that he will pass this employability screen if he satisfies both of the previous criteria, than if he satisfies only one. The chance of employment in a stable good paying job is negligible if he meets neither.

To recapitulate, to increase employability we must take account of three criteria:

1. Possession of required job skills and knowledges.

2. Possession of a diploma and/or job related credentials and certificates.

3. Activation of agencies which provide access to jobs.

Applying these criteria specifically to the drop-out population in delinquenogenic communities, the best sequence of action appears to be:

Steps to Improve Employability

Step 1. Concentrate on developing job required skills and knowledges to insure adequate job proficiency (Criterion #1).

Step 2. Develop a system of credentials which provides proof of performance competency at defined levels of knowledge and/or performance (Criterion #2).

Step 3. Open channels into job access agencies, which will result in sufficient acceptance, of Steps 1 and 2 for these agencies to actively seek to match the applicant to jobs for which he is qualified.

APPENDIX C

HISTORICAL BACKGROUND
to
PROGRESSIVE CHOICE PROGRAMMING METHODS

Three methods of programming will be used individually and in combination to produce literacy skills, conceptual understanding and job skills. Each has been subjected to experimental test and found superior to non-programmed methods. The programmed development of skills (Operational Context Training, OCT) was initially tested within Nike Missile Batteries to provide operator skills involved in making checks and adjustments. (Woolman, 1958). This skill development programming method can readily be adapted for developing skills using workers as instructors and the plant office or factory as the training context. As it takes place within the operational context there is no cost for buildings, equipment or a teaching staff. (Woolman, 1960).

The OCT programming method was first used in missile batteries when it was found that a small percentage of the assigned men were repeatedly used as the firing team. The method was designed to transmit the combined skills of these men to the unskilled manpower pool. The method provides:

1. A step by step teaching procedure for use by non-instructors.
2. A simple but general system of evaluating performance.
3. Total organization of all information to be learned.
4. A system of goals and sub-goals.
5. An administration and record keeping system.
6. Various motivational devices involving personal recognition based on proficiency development.
7. A quality control system external to the instructor group.
8. An overall planning capability.

Briefly, OCT trained operators, trained in OCT experimental batteries rather than the Army school at Fort Bliss were significantly more effective than operators trained in other batteries. OCT trained operators with less than eight months of total on-site time were as effective as operators originally trained at Fort Bliss with fifteen months of on-site time. In addition to advantages in skill development, training costs were decisively lower (estimated cost of programmed materials for battery use was $2.00 per man as contrasted with the multiple costs of travel, facilities, equipment, instructors, staff, etc. to train men in a school setting). The data also indicated a significant improvement in the morale of operators trained by this method. The U.S. Army adopted the OCT system for missile operator training as did the U.S. Army Training Center at Fort Bliss in

1958. In addition OCT is now used for the General Electric Range Safety Instrumentation System (GERSIS), the Pacific Missile Range, and is currently being tested for training and maintenance on the Republic F-105 airplane.

The Conceptual Program

A second method of programming, which is pertinent to the present study involves the use of methods to facilitate understanding of relationships, concepts and principles. This type of program was developed and initially tested in a two-week, six hour per day course, for the Bell Telephone System to improve understanding of electrical concepts of linemen. Since that time it has been used in a number of programming contexts. An experimental comparison between students given the Self-Instructional Program and lecture trained students was performed by Hold and Valentine (1960) to determine whether the programming method was superior to the lecture instruction given in the Bell Telephone System (See Tables 1 and 2).

Table 1

COMPARISON BETWEEN LECTURE AND SELF-INSTRUCTIONAL SUBJECTS IN HOLT-VALENTINE EXPERIMENT

Matching Variables	Experimental Treatments	
	Controls (Lecture)	Experimental (Program)
N	30	34
Otis IQ	105.6	108.2
Years job Service	12.7	11.6
Background semester math	5.6	5.2
Score -- Electrical pre-knowledge test	26.7	24.8

Table 2

HOLT-VALENTINE FINAL TEST COMPARISONS

Multiple Choice Comprehensive	Controls (Lectures)	Experimental (Program)	t Ratios[a]
	48.6	57.6	4.46 ($P < .001$)
Conceptual Understanding test	45.6	63.7	5.31 ($P < .001$)

[a]Favors Programmed method; no member of Controls attained the mean of the Experimentals; no member of the Experimentals fell to the mean of the Controls.

In 1962, the Bell Telephone system adopted this program for training in Basic Electricity. The methods underlying the design of this system of training are contained in "Programming for Conceptual Understanding" (Woolman, 1961) written under contract for the Bell Telephone Laboratories.

These methods are general and have been used to develop programs to simplify malfunction analysis, automobile driving relationships and higher level abstractions to persons whose background and capability would require extended time periods and costly instruction using conventional lecture, workbook, or other methods. These methods, for example, could be used to train drop-outs in basic electricity, computor programming, arithmetic and higher mathematics, or any other job knowledge area where conceptual understanding is a prerequisite to effective function.

The Perceptual Program

(The Progressive Choice Reading Method)

The Progressive Choice Reading Method was designed by the Principal Investigator in 1950, based on theoretical considerations involved in the learning process. Since that time it has been subjected by Bloomer (1961) to six experimental tests with first grade children (these studies employed teachers trained in the principles and techniques of the method). Each of the six studies by Bloomer established a significant difference favoring PC trained children at the end of the first grade when compared with various conventional methods using stardard tests of reading proficiency such as the Gates and Metropolitan tests. (See Table 3 below).

Table 3 represents a summary of six studies and shows that at the end of the first grade PC trained children obtained superior reading post-test scores ($P < .001$) when compared with children trained by other methods. Briefly, at the end of first grade, only six percent of PC children failed to achieve second grade level as compared with 29% for conventionals. PC and conventional reading methods were about equal in the proportion of children reading at second grade level, but only 18% of the control children obtained reading scores at the third grade level while 42% of PC trained children scored at the third grade level. Davy (1961, 1962) adapted the PC Reading Method and demonstrated that retarded children could learn to read by this means (see Appendix H for reprint).

Table 3

Summary of Six Experimental Studies
Comparing PC and Conventional Reading Methods
Achievement Level of First Grade Pupils by Percent

Teaching Method	Number of Classes	Number of Pupils	Reading Achievement Grade 1.0-1.9	2.0-2.9	3.0-3.9	%
Progressive Choice	7	178	6	52	42	100
Combined other Methods	15	383	29	53	18	100

Chi-Square - 138.21 using actual frequencies (P less than .001)

The Synchronous
Progressive Choice Reading Program

The Synchronous PC Reading Program, now in experimental use for teaching mentally retarded children, will provide the model for the adult literacy program. It embodies the following characteristics:

1. Programmed material is presented in small readily digestible units.

2. A rigorous sequence of reading skill development is imposed following the principles of the Progressive Choice Reading Method.

3. Learner response rate is high.

4. There is continuous feed-back of the adequacy and relevancy of learner responses.

5. Learners progress only on the basis of demonstrated proficiency using built-in evaluation methods.

6. Learners are required to achieve specified goals and sub-goals.

7. Both extrinsic and intrinsic motivational devices are used.

The instructor is thus a human vehicle through which the program moves to the learner. However, in contrast to the teaching machine, the instructor can be sensitive to areas of learner difficulty, offer support and encouragement, and correct special student learning problems on the basis of new insight and skill. To facilitate this process, and to avoid mechanistic classroom behaviors, a Program Rationale is included in the Teacher Manual. This is an independent self-instructional program, designed to provide conceptual understanding of the principles and techniques underlying the Progressive Choice Reading Method. The teacher (or unskilled literate instructor) is therefore systematically provided with a course of study in the Progressive Choice Reading Method while using it in a realistic training situation. Thus, the underlying rationale and implications of the teaching procedure is exposed at a more fundamental level. The function of the conceptual program is four fold:

1. Eliminate the necessity of special training for program teachers.

2. Increase motivation and involvement of program instructors.

3. Increase the precision of their diagnosis of reading problems.

4. Increase their adaptability in the use of the program in the classroom situation.

This self-instructional feature has been received very positively by teachers of the mentally retarded.

This study under an NIMH grant involving the use of a Progressive Choice Synchronous Reading Program to teach reading skills to mental retardates in the classroom has now completed its first year. This study was undertaken to provide a rigorous test of the Progressive Choice Reading Method in programmed form. The data indicated that this method did succeed in upgrading the reading skills of most retardates. Excerpts from the Summary and Conclusions follow: (Woolman and Davy, 1963).

> The study was designed to obtain a "minimal yield" estimate and therefore no assistance or training was given to teachers in the form of workshops, evaluations, critiques or supervision. Both E and C teachers were regular public school teachers and were oriented to the experimental situation in two after-school sessions totalling approximately three hours. There were 23 classes in 19 schools covering the Fairfax County, Baltimore City and Baltimore County systems. In addition, some private schools used the Basal Progressive Choice Reading Program under less rigorously controlled conditions. All classes were pre-tested (Fall, 1962) using the Metropolitan Achievement Test (MAT), Primary I Level, Form A, the Progressive Choice Marginal Diagnostic Reading Test ($r = .95$ applying the Spearman-Brown correction for $N = 170$) and post-tested with alternate forms of the same tests on completion of the school year. Differences in performance on the Progressive Choice Diagnostic Reading Test were used as the basis for evaluation, as the MAT used lower case letters which were not taught to the E children.
>
> The results, as measured by difference scores on the Progressive Choice Marginal Diagnostic Reading Test favored E subjects at significant levels of confidence; Trainable E subjects were superior to Trainable C subjects; Educable E subjects were superior to Educable C subjects. The gain in reading scores by Trainables was almost as great as the gain obtained by Educables.
>
> Conclusions:
>
> 1. The Basal Progressive Choice Reading Program was more effective than conventional reading methods in increasing growth in reading skills for both Educable and Trainable retardates.
>
> 2. Teachers can use the Basal Progressive Choice Reading Program effectively without prior instruction or supervision.

It should be emphasized that teaching adults, whether delinquent, institutional or retarded, involves the development of a substantially different program from the one now being tested experimentally; the life goals, values and needs of these adults differ radically from the school children now undergoing training. In the present program, the learners are initially involved by means of games, play and social approval. Similar mechanisms related to the delinquenogenic population will be used in developing involvement in the proposed program. It is vital that this delinquenogenic population perceive the programmed reading situation as a mechanism which they can master rather than a return to

learning methods historically associated with defiance, and final defeat. The content and pacing of the literacy training program will originally be tailored to the learning population's basic needs and values as analyzed by research staff and consultants. On the basis of student performance, student attitudes, instructor evaluations, etc. the original program will be continually revised to more fully satisfy this critical program objective.

The mean achievement level of normal first grade children in the six Bloomer studies was 2.88 i.e. mean achievement was almost at third grade level at completion of first grade. Work with problem-reader adolescents over the last ten years indicates that they can increase their reading achievement level at far greater rates than first grade children. Although it is not possible to predict with certainty, it is our expectancy that a mean sixth grade achievement level is a reasonable goal for illiterate normal adolescents and adults over the same time period using programmed PC materials. Using these programs illiterates could be taught by certified teachers, literate adults and adolescents at higher levels in the program.

THE SOCIAL EFFECTIVENESS EVALUATION FORM

Child's name _____

Evaluated by _____ Date _____

INTRODUCTION

The Social Effectiveness evaluation form permits a child to be evaluated on three scales: (I) The Environmental Scale, (II) The Verbal Fluency Scale and (III) The Situational Involvement Scale. The teacher makes only one check mark on each scale; thus the complete evaluation of each child requires the teacher to make only three check marks; one check (√) on each scale in the block directly below the level number.

DIRECTIONS

1. At the top of this page, write the complete name of the child you are evaluating as well as your name.
2. Turn to Page 2 (The Environmental Scale) and read the description at each level.
3. Check (√) the box under the appropriate Level number for the given child. Note: Each of the descriptive statements for that Level should apply reasonably well to the child you are evaluating; if one statement is clearly out of line, then look for the Level which best matches the child on all statements. Complete pages 3 and 4 in the same manner.

IMPORTANT **IMPORTANT**

Remember: Make the check where all descriptive statements apply reasonably well. When in doubt between two levels, always select the lower level. For example, if you are in doubt between Level 6 and Level 7, check Level 6.

To Repeat: Always select the lower level when in doubt.

PLEASE TURN PAGE

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I – THE ENVIRONMENTAL SCALE

LEVELS	DESCRIPTIVE CONDITIONS
1 ☐	a. Unaware of where he is, what he is doing or what is expected of him. b. Cannot speak in a meaningful manner.
2 ☐	a. Aware of environment and can verbalize some words; b. Cannot follow instructions or control his behavior for more than a few minutes at a time; c. Exhibits no interactional social behaviors.
3 ☐	a. Aware of environment; can verbalize some words; b. Completes very simple task only when teacher gives persistent individual instruction; c. Occasionally seeks out other children but usually plays in isolated fashion.
4 ☐	a. Aware of environment and can use and understand a restricted vocabulary; b. Completes simple tasks when directed by teacher; c. Often seeks out other children but usually returns to isolated play.
5 ☐	a. Does only what is required when teacher is present; b. Knows that there are school rules and procedures but does what is required only when reminded of the rules; c. Usually seeks out other children but can only play with others for brief periods of time.
6 ☐	a. Does what is required only when given specific direction from the teacher; b. Acts without reference to school rules and procedures whenever direct supervisory control is relaxed; c. Often plays with other children but is never sought as a playmate; d. Often disrupts class or group by failing to follow the rules and performs actions such as tantrums, shouting, teasing, running, hitting, biting and clowning under inappropriate conditions.
7 * ☐	a. Follows teacher's directions without special personalized instruction; b. Demonstrates considerable understanding of classroom and school rules and procedures but often produces minor problems by sulking, complaining, arguing, threatening, quitting, etc. c. Often plays with other children as an accepted group member and is sometimes sought as a playmate.
8 ☐	a. Behaves well in the classroom with only occasional lapses in conduct; whether teacher is immediately present or absent. b. Knows the school rules and procedures and makes every effort to conform but occasionally violates requirements through misinterpretations or forgetfulness; c. Usually plays well with other children but occasionally violates the spirit of the game by refusing to follow the accepted rules; is often sought out as a playmate.
9 ☐	a. Is a well behaved member of the class whether teacher is present or absent; b. Understands the school rules and procedures and follows them correctly; c. Is an accepted member of the play group who often leads and sometimes follows and who continually exhibits sportsmanlike and cooperative behavior.
10 ☐	a. Is under good self-control and often offers emotional support to other children; b. Knows the school rules and procedures fully and can meet new situations in a mannerly fashion; c. Is a sought after member of the group whose play activity exhibits a high level of sportsmanship and understanding of others.
11	a. Is fully controlled in his behavior and maintains emotional stability under adverse circumstances; b. Knows classroom and school rules thoroughly and can be trusted to be given responsibility in an emergency.

* Assumed Behavioral Level of first grade child of normal intelligence.

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II – THE VERBAL FLUENCY SCALE

LEVELS	DESCRIPTIVE CONDITIONS
1 ☐	a. No indication of understanding of language whether in speech or gesture.
2 ☐	a. Responds correctly to common terms used to describe familiar objects and events such as: shoes, hats, eating, sleeping, etc.
3 ☐	a. Correctly uses common terms such as hat, shoe, eating, sleeping, etc.
4 ☐	a. Responds correctly to sentences showing spatial and temporal relationships, as: The hat is on his head; John is between Mary and James; You read after John reads.
5 ☐	a. Can construct and speak meaningful sentences to show relationships between objects and events (See Level 4).
6 ☐	a. Is capable of understanding directions involving simple sequences of actions. Examples: obtain the materials and perform actions for such tasks as; properly mopping a floor; washing down a blackboard; sweeping out a room; dusting a chair; etc., etc.
* 7 ☐	a. Is capable of understanding and also verbally describing the actions to be taken in performing simple sequences of behavior such as those required to perform tasks at Level 6.
8 ☐	a. Is capable of understanding fairly complex abstractions involving the moral implications of statements. Example: Honesty is the best policy; Crime does not pay; If you cry "Wolf" too often you will not be believed when you do need help.
9 ☐	a. Can both understand and also give a reasonably meaningful explanation of the moral implications of statements such as those presented at Level 8.
10 ☐	a. Is capable of understanding complex abstractions such as: Free will implies both indeterminism and personal responsibility; The tyranny of democracy is always superior to the democracy of tyranny, etc.
11 ☐	a. Can both understand and also give a reasonably meaningful verbal explanation of complex abstract statements such as those presented at Level 10.

*Assumed Verbal Fluency Level of typical first grade child of normal intelligence.

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III – THE SITUATIONAL INVOLVEMENT SCALE

LEVELS	DESCRIPTIVE CONDITIONS
1 ☐	a. Unable to sustain attention for more than a minute on any task.
2 ☐	a. Can sustain attention for more than a minute, b. But drops what he is doing at the slightest distraction.
3 ☐	a. Is able to sustain attention in performing simple, already-known tasks in the face of some distraction; b. Has a strong tendency to repeat the same error.
4 ☐	a. Usually can sustain attention in performing uncomplicated tasks which he knows how to do; b. Frequently repeats the same error in the same way in learning new tasks.
5 ☐	a. Maintains attention over considerable time periods in learning new tasks; b. Occasionally tends to repeat the same error in the same way; c. Requires active teacher assistance to learn to do new tasks.
6 * ☐	a. Maintains attention over considerable time periods in learning new tasks; b. Infrequently repeats the same error in the same way; c. Where task is very similar to already known material, he sometimes learns to perform without active teacher help.
7 ☐	a. Perseveres in the face of several failures; b. Gives evidence of imagination in attempting to reach an answer; c. Usually does not repeat an error in the same way.
8 ☐	a. Perseveres strongly in the face of repeated failure; b. Is imaginative and resourceful in efforts to perform a task correctly; c. Hardly ever repeats an error in the same way.
9 ☐	a. Strongly perseveres in the face of repeated failure; b. Is imaginative and resourceful in his effort to overcome obstacles to performing task correctly; c. Takes advantage of errors by using them to give information on how to perform the task more correctly.
10 ☐	a. Very strong perseverance in the face of repeated failure; b. Overcomes obstacles in an imaginative and resourceful manner; c. Takes advantage of errors by studying them to improve knowledge of materials and task performance.
11 ☐	a. Very strong perseverance in the face of repeated failure; b. Overcomes obstacles in an imaginative and resourceful manner; c. Studies errors to provide information on how his objective could be achieved more readily; d. Uses new skills and information only where appropriate; e. Adapts new skills and information to a variety of different situations.

*Assumed level of Taks Involvement of typical first grade child of normal intelligence

Now enter each Level number

Summary of Scales

I ☐ II ☐ III ☐

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